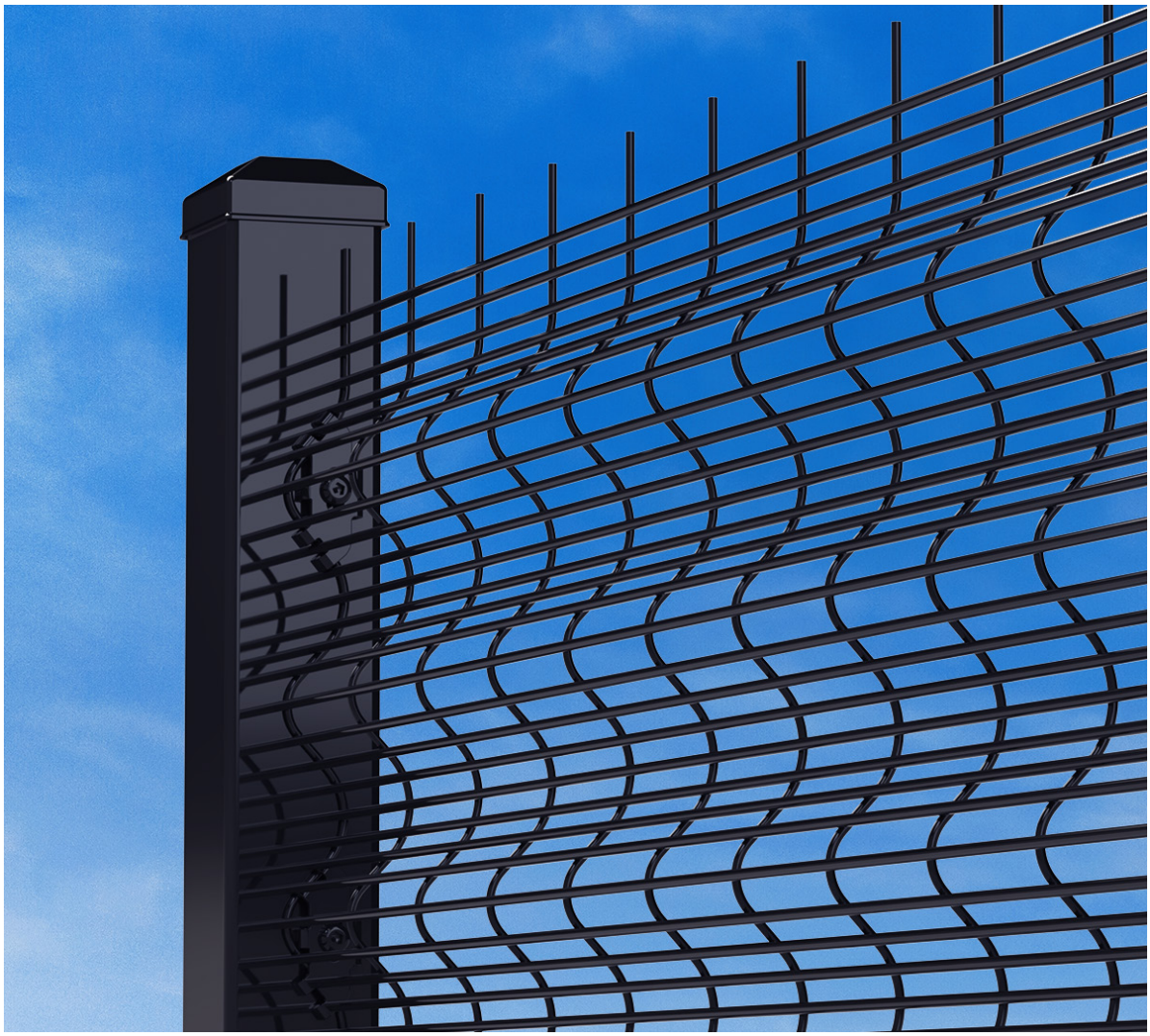
EDGESMITH



FOR RESIDENTIAL AND COMMERCIAL BALUSTRADES

PS1 | NGARU MESH

Producer Statement
Residential and Commercial Balustrades

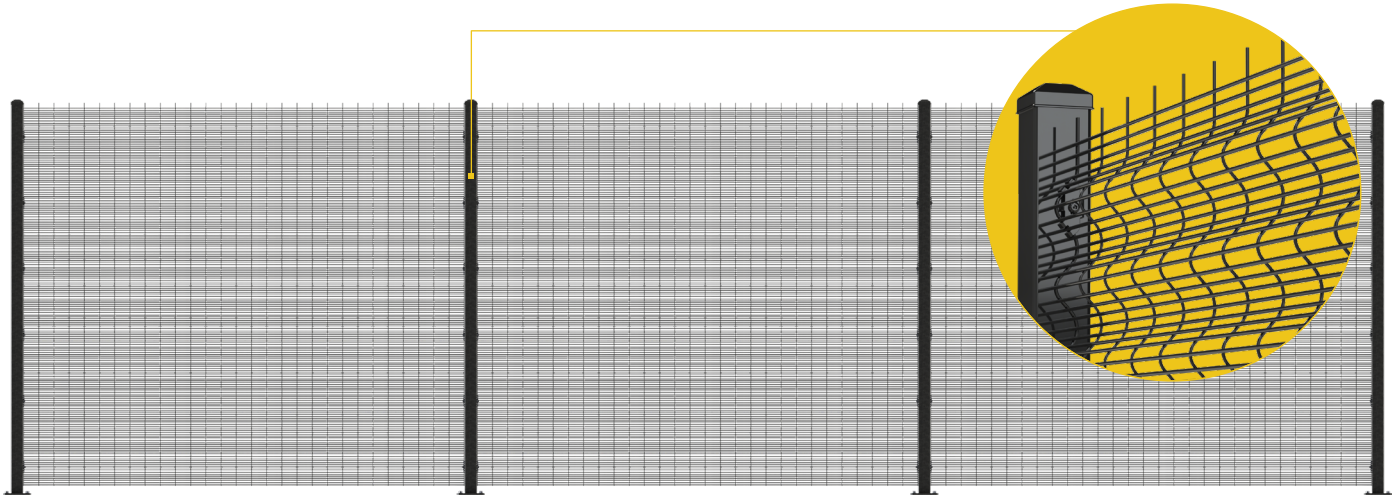
The design is in compliance with the New Zealand Building Code (NZBC), NZS 3604:2011 section B1 and F4.
Barrier loadings meet AS/NZS 1170.1:2002

Rev No. 02 | **Issue Date:** July 2025

Ngaru Mesh 358

Ngaru Mesh 358 is a rigid wire mesh panel that combines high strength and security with a stylish modern look. The horizontal ripples both soften the look and add rigidity to the panel meaning that it can be installed without rails.

Ngaru Mesh 358 is the same cost as tubular steal or aluminium fencing but much higher security. Absence of horizontal rails reduces the climbing risk and increases visual penetration for security cameras.



Applications

The New Zealand Building Code (AS/NZS 1170.1:2002) designates different occupancy types and specifies the load ratings that the system must be capable of withstanding. The system comprises of the panel, posts, fixings and the structure that the balustrade is being attached to. These are summarised in the table below. Refer to the drawings on pages 5-9 for more details.

Application	Occupancy Type	Design Load	Posts	Fixing Options	Details
Timber Retaining Wall	A, B, E, C3	0.75kN/m	SHS 65 x 2.5 Steel	Bolt or Coach Screw	Pg. 10
In-Ground	A, B, E, C3	0.75kN/m	SHS 65 x 2.5 Steel	Concreted	Pg. 11
Concrete	A, B, E, C3	0.75kN/m	SHS 65 x 2.5 Steel	Screw Bolts	Pg. 12
Timber Deck	A, B, E, C3	0.75kN/m	SHS 65 x 2.5 Steel	Bolt or Coach Screw	Pg. 14

AS/NZS 1170.1:2002 Table 3.3 Occupancy Reference

Table 3.3 Barrier imposed loads

Type of occupancy for part of the building or structure	Specific uses	Top Edge and Rail			Infill	
		Horizontal kN/M	Vertical kN/M	Inwards, outwards or downwards kN	Horizontal kPa	Any direction (see Note 2) kN
A - Domestic and residential activities	All areas within or serving exclusively one dwelling including stairs, landings etc. but excluding external balconies and edges of roofs (see C3)	0.35	0.35	0.6	0.6	0.25
	Other residential (see also C)	0.75	0.75	0.6	1.0	0.5
B, E - Offices and work areas not included elsewhere, including storage areas	Light access stairs and gangways not more than 600mm wide	0.22	0.22	0.6	N/A	N/A
	Fixed platforms, walkways, stairways and ladders for access (see Note 1)	0.35	0.35	0.6	N/A	N/A
	Areas not susceptible to overcrowding in office and institutional buildings also industrial and storage buildings	0.75	0.75	0.6	1.0	0.5
C3 - Areas without obstacles for moving people and not susceptible to over crowding	Stairs, landings, external balconies, edges of roofs etc.	0.75	0.75	0.6	1.0	0.5

Fasteners And Corrosion Zones

New Zealand's coastal climate means that attention must be paid to the proximity to salt water when choosing what fasteners to use. The table below is a guide to where hot dip galvanised fasteners can be used. While it may seem counter intuitive that sheltered installations require stainless steel fittings even within 5km of the sea, it is because regular exposure to rainfall cleans the fasteners and prolongs their life.

Environment	Corrosion Classification	Exposed	Sheltered
Within 500m of breaking surf or 50m of calm salt water	C4	All fixings 304 Stainless Steel	All fixings 304 Stainless Steel
Within 20km of salt water on West or South Coast of South Island or within 5km of salt water elsewhere	C3	All fixings Hot dip Galvanised or 304 Stainless Steel	All fixings 304 Stainless Steel
More than 20km of salt water on West or South Coast of South Island or more than 5km of salt water elsewhere	C2	All fixings Hot dip Galvanised or 304 Stainless Steel	All fixings Hot dip Galvanised or 304 Stainless Steel

Note 1: While hot dip galvanised fixings are acceptable in inland locations it is safer to use 304 grade stainless steel.

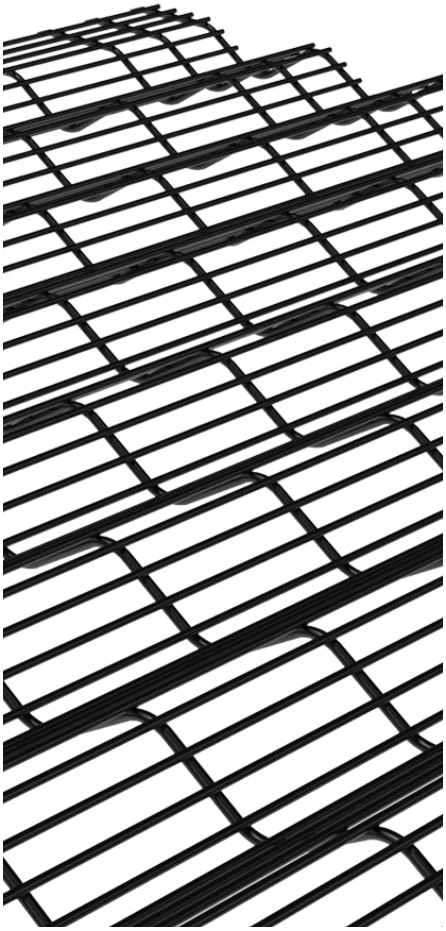
Note 2: The table above is only a guide. Please refer to SNZ TS 3404:2018, Figures 1 to 7 for specific corrosivity maps for further guidance.

Inspection And Maintanence Schedule

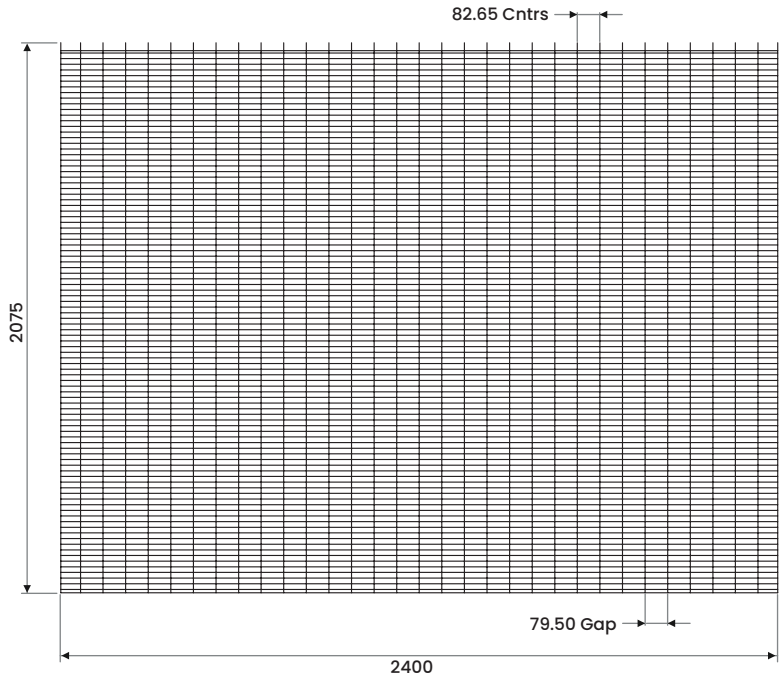
This schedule of ongoing maintenance of structural elements shall be included with the O&M manuals and provided to the Owner/Body Corporate and building managers.

Timeframe	Inspection / Maintenance
1/2 yearly	Wash down all exposed metalwork including panels, posts and fixings
10 yearly	Check panels, posts and fixings for signs of corrosion. Repair protective coatings or replace as required.
Following seismic shaking > SLS1 event	Inspect and repair as per the 10 yearly requirements.

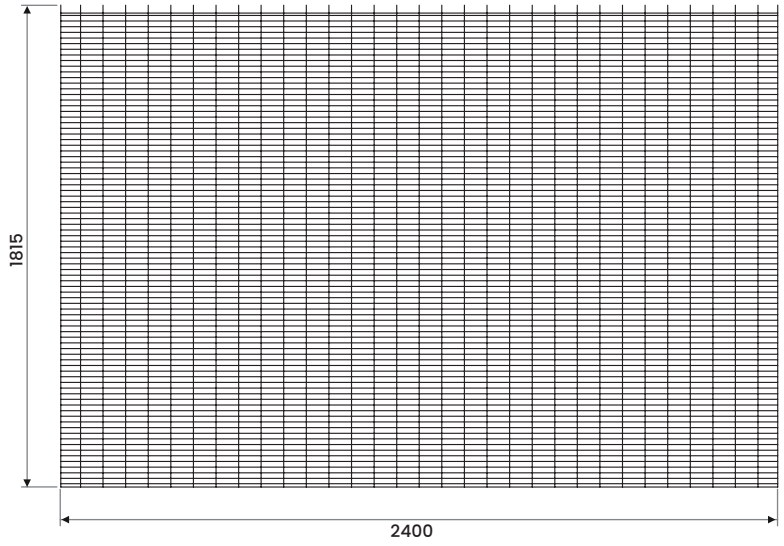
Full engineers report with design calculations available on request.



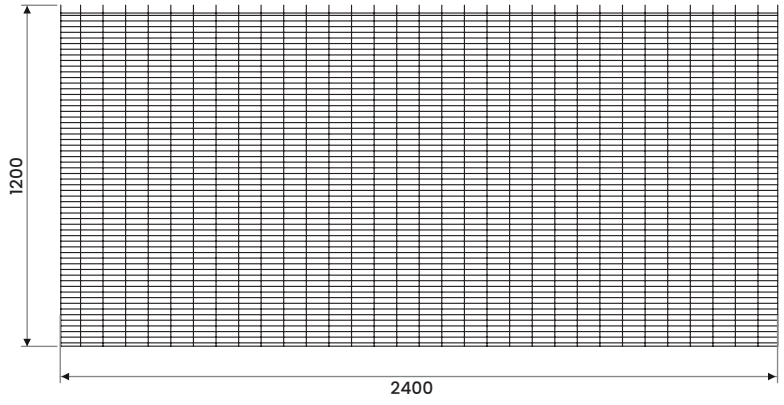
Ngaru Mesh - 2.1mH x 2.4mW



Ngaru Mesh - 1.8mH x 2.4mW



Ngaru Mesh - 1.2mH x 2.4mW



Material:

- Tolerance ± 5mm
- Yield strength 375 - 470MPa
- Tensile strength 500 - 625MPa
- Welded to minimum 60% of wire tensile strength
- Coating: HDG Zinc 160 - 260 gsm sqm

Fasteners:

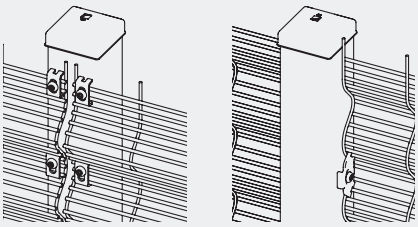
- 38mm Self drilling security screws with SS mesh clips

Compliance:

- **Weld Mesh Standard:** AS 2423:2002
- **Galvanising Standard:** AS/NZS 4680:2006
- Fencing at schools - Design and Specification Guidance (2023)
- PS1 for NZ building code F4 "safety from falling"

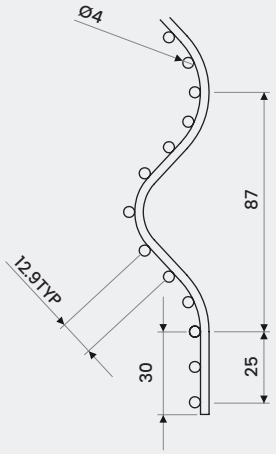
Ngaru Mesh Clips:

Horizontal Orientation

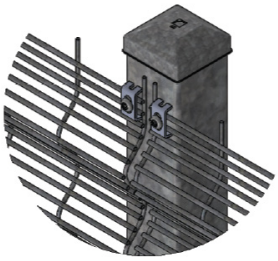


Face Fix | Side Fix

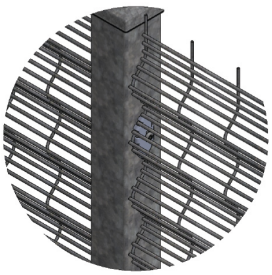
Details:



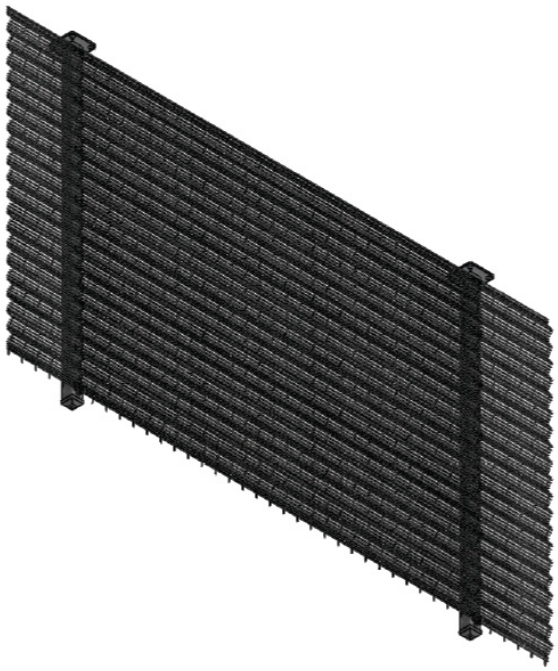
Horizontal Orientation



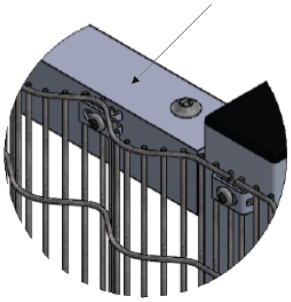
Face Fix

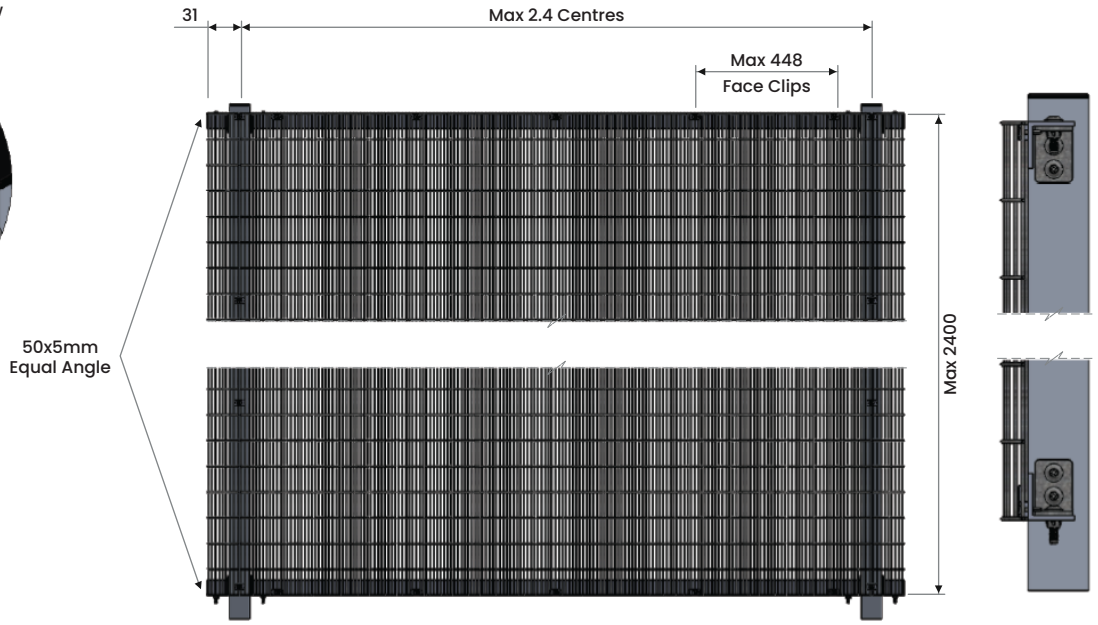


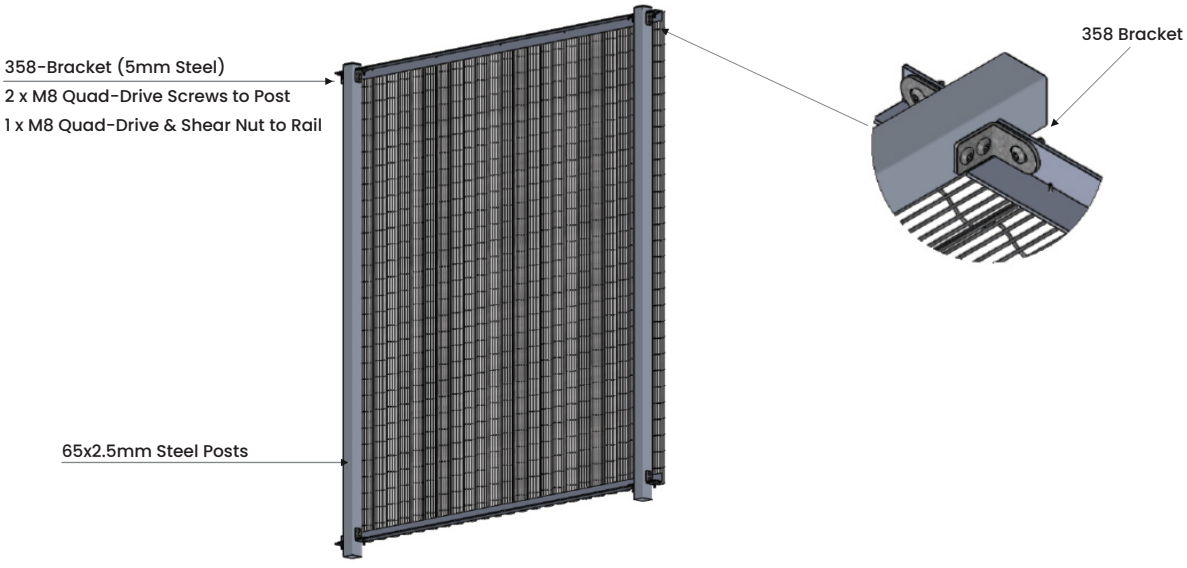
Side Fix



Vertical Orientation







PRODUCER STATEMENT – PS1
DESIGN

BUILDING CODE CLAUSE(S): B1, F4 **JOB NUMBER:** 2886-2411
ISSUED BY: Lautrec Technology Group Limited
(Engineering Design Firm)
TO: Edgesmith Limited
(Owner/Developer)
TO BE SUPPLIED TO: All Building Consent Authorities in NZ (Auckland Council Author Number: 1385)
(Building Consent Authority)
IN RESPECT OF: Edgesmith Ngaru Mesh Balustrade Systems
(Description of Building Work)
AT: N/A (all locations in NZ)
(Address, Town/City)
LEGAL DESCRIPTION: **N/A** ☑

We have been engaged by the owner/developer referred to above to provide *(Extent of Engagement)*:
Specific Engineering Design - Structural Components Only
in respect of the requirements of the Clause(s) of the Building Code specified above for Part only, as specified in the Schedule, of the proposed building work.

The design carried out by us has been prepared in accordance with:

- ☑ Compliance documents issued by the Ministry of Business, Innovation & Employment *(Verification method/acceptable solution)* B1/VM1 and/or;
- ☑ Alternative solution as per the attached Schedule.

The proposed building work covered by this producer statement is described on the drawings specified in the Schedule, together with the specification, and other documents set out in the Schedule.

On behalf of the Engineering Design Firm, and subject to:

- Site verification of the following design assumptions: assumed adequate support structure by others .
- All proprietary products meeting their performance specification requirements;

I believe on reasonable grounds that:

- the building, if constructed in accordance with the drawings, specifications, and other documents provided or listed in the Schedule, will comply with the relevant provisions of the Building Code and that;
- the persons who have undertaken the design have the necessary competency to do so.

I recommend the CM 1 level of **construction monitoring**.

I, *(Name of Engineering Design Professional)* Kevin Brown , am:

- ☑ CPEng number 140404

and hold the following qualifications BE, CMEngNZ, CPEng, IntPE(NZ), MBA

The Engineering Design Firm holds a current policy of Professional Indemnity Insurance no less than $200,000
The Engineering Design Firm is a member of ACE New Zealand.

SIGNED BY *(Name of Engineering Design Professional)*: Kevin Brown
(Signature below):

ON BEHALF OF *(Engineering Design Firm)*: Lautrec Technology Group Limited Date: 23/07/2025

Note: This statement has been prepared solely for the Building Consent Authority named above and shall not be relied upon by any other person or entity. Any liability in relation to this statement accrues to the Engineering Design Firm only. As a condition of reliance on this statement, the Building Consent Authority accepts that the total maximum amount of liability of any kind arising from this statement and all other statements provided to the Building Consent Authority in relation to this building work, whether in tort or otherwise, is limited to the sum of $200,000.

This form is to accompany **Form 2 of the Building (Forms) Regulations 2004** for the application of a Building Consent.

Lautrec Technology Group Ltd.
Professional Consulting Engineers

23/07/2025

To the Building Official,

B2 COMPLIANCE - EDGESMITH NGARU MESH BALUSTRADE SYSTEMS
at ***occupancy categories A, B, E, and C3 only;*** at ***any location in New Zealand that falls within the scope of this PS1 - see supporting PS1 report for scope***

We have been asked to provide a PS1 for Clause B2 of the Building Code - Structural Durability

We are not able to provide this because there is no effective verification method for B2 contained within the New Zealand Building Code.

As these systems can be installed in a variety of settings, including internal and exposed environments, it is not deemed practical to specify durability requirements for the sub structure. Timber treatments, mild steel corrosion protection coatings, and concrete and masonry covers are therefore up to the building designer to specify in accordance with the relevant recognised standards.

However, we can confirm that for the structural elements shown in the attached documentation:

Material	Means of compliance	Details
Edgesmith Ngaru Mesh Balustrade Systems - Steel	Alternative Solution	Protection for mild steel has been specified in accordance with SNZ TS 3404 - Durability requirements for steel structures and components and AS/NZS 2312 - Guide to the protection of structural steel against atmospheric corrosion by the use of protective coatings. We note that this is on a time to first maintenance basis.
Connections - Hot Dip Galvanised and Stainless Steel fixings	Alternative Solution	All bolt and screw fixings for the Edgesmith Ngaru Mesh Balustrade Systems shall be either Hot Dip Galvanised or 304 Stainless Steel. Refer to the fixing table in the manual.

It is assumed that these structural elements are fixed to adequate structures by others.

Minor tea staining may occur in coastal environments. Refer to Edgesmith Ngaru Mesh Balustrade Systems manual for the supplier's maintenance requirements.

Yours faithfully,

Managing Director
Kevin Brown
BE, CMEngNZ, CPEng, IntPE(NZ), MBA

Lautrec Technology Group Ltd.
Professional Consulting Engineers

OUTLINE OF COMPLIANCE FOR PARTICULAR ITEMS COMPRISING THE EDGESMITH NGARU MESH BALUSTRADE SYSTEMS

Outline of compliance for particular components, NZBC B1	
Mild steel sections	Refer to Appendix A3 Calculations - Edgesmith Ngaru Mesh Balustrade Systems
Coach screws, bolts and concrete anchors	Refer to Appendix A3 Calculations - Edgesmith Ngaru Mesh Balustrade Systems For fixings to timber, calculations in Appendix A3 confirm compliance. For fixings to concrete, refer to Appendix A3. Concrete is assumed to be min. 20 MPa reinforced concrete (C20), and without edge reinforcement. The project engineer shall review and confirm appropriate supporting structure to accommodate loads introduced by the proposed system. Refer to sections within the manual for guidance on installation, and Appendix A3 for loadings of connections back to assumed adequate structure.

Outline of compliance for NZBC B2

All components outlined in the product catalogue shall meet NZBC B2.3.1(b) **15 years**, assuming reasonable maintenance, and appropriate architectural context.

Refer to the Edgesmith Ngaru Mesh Balustrade Systems manual for maintenance requirements.

Mild steel, hot dip galvanised or stainless steel 304 fixings are fit for purpose in NZBC corrosion zones C2, C3 and C4. Refer to the product catalogue for more details.

Adequate supporting structure shall be designed by the project designers.

Durability of assumed adequate supporting structure is outside the scope of this PS1.

GENERAL NOTES

(1) THE BALUSTRADE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE ARCHITECT'S AND ENGINEER'S DRAWINGS.

(2) ALL DIMENSIONS AND LEVELS ARE TO BE CHECKED ON SITE AGAINST THE ARCHITECT'S AND ENGINEERS DRAWINGS PRIOR TO COMMENCING WORK – ANY VARIATIONS OR DISCREPANCIES ARE TO BE REFERRED TO THE CONSULTANT FOR RESOLUTION.

(3) THE EXISTING SUPPORTING STRUCTURE DETAILS ARE NOT COVERED BY THESE DRAWINGS. IT IS ASSUMED THAT THE EXISTING SUPPORT STRUCTURE CAN ACCOMMODATE THE ADDITIONAL LOADS INDUCED BY THE BARRIER. IN ADDITION, THE EXISTING STRUCTURE MUST HAVE THE REQUIRED MINIMUM PROPERTIES AS FOLLOWS: f'c = 20 MPa (FOR CONCRETE), f'm = 12 MPa (FOR MASONRY), GROUP J4 OR J5 MATERIAL (FOR TIMBER).

(4) THESE DRAWINGS ONLY COVER THE INSTALLATION/CONNECTION DETAILS OF NGARU MESH COMMERCIAL BALUSTRADE SYSTEM.

(5) A MINIMUM OF 48 HOURS NOTICE IS REQUIRED FOR ANY CONSTRUCTION MONITORING OBSERVATIONS. A PS4 CANNOT BE PROVIDED (PRODUCER STATEMENT CONSTRUCTION REVIEW), IF THE CONSULTANT IS NOT INFORMED OF THE REQUIRED INSPECTIONS THAT THE LOCAL TERRITORIAL AUTHORITY MAY REQUIRE.

(6) REMOVE ALL EXCESS MATERIALS AND RUBBISH FROM SITE AND REINSTATE ANY DAMAGE ON COMPLETION OF WORKS.

(7) ALL DAMAGE TO EXISTING STRUCTURE CAUSED BY CONSTRUCTION ARE TO BE REINSTATED.

(8) ALL WORKS ARE TO COMPLY WITH THE NEW ZEALAND BUILDING CODE (NZBC).

DURABILITY – STEEL FIXINGS & COMPONENTS

(9) HOT-DIPPED GALVANIZED BOLTS/FIXINGS CAN BE USED FOR LOCATIONS THAT FALL UNDER TYPICAL ATMOSPHERIC CATEGORIES B & C SO LONG AS THE MAINTENANCE PROGRAM AS DETAILED FOR THE DESIGN IS STRICTLY ADHERED TO. REFER TO TABLE 1 & 2 BELOW.

(10) GRADE 304 STAINLESS STEEL BOLTS/FIXINGS ARE TO BE USED FOR LOCATIONS THAT FALL UNDER TYPICAL ATMOSPHERIC CATEGORY D OR IN CATEGORY C LOCATIONS WHERE ITEMS ARE DEEMED TO BE SHELTERED AND UNABLE TO BE WASHED REGULARLY AS REQUIRED BY THE MAINTENANCE PLAN. REFER TO TABLE 1 & 2 BELOW.

(11) FOR FIXINGS REQUIRED IN AREAS OF TYPICAL ATMOSPHERIC CATEGORIES OTHER THAN B, C & D, OR IN WET LOCATIONS WHERE STEEL WILL REMAIN WET FOR EXTENDED PERIODS OF TIME, SUCH AS CREVICES, LOW POINTS & POCKETS NOT DRAINED, THESE WILL REQUIRE SPECIFIC ENGINEERING DESIGN (SED) WHERE MORE DURABLE GRADE 316 OR HIGHER STAINLESS STEEL OR SILICON BRONZE FIXINGS MAYBE MORE SUITABLE. REFER TO TABLE 1 & 2 BELOW.

(12) FOR FIXINGS AND COMPONENTS THAT ARE TO HAVE DIRECT CONTACT WITH PRESERVED TIMBER (PT), ESPECIALLY WHEN THE PRESERVATIVE TREATMENT USES COPPER AZOLE-BASED (CuAz) OR ALKALINE COPPER QUATERNARY-BASED (ACQ) PRESERVATIVES AND A HIGH TIMBER MOISTURE CONTENT IS EXPECTED, THEN GRADE 304/316 STAINLESS STEEL FIXINGS ARE RECOMMENDED. IF GALVANIZED FIXINGS ARE USED WHERE MOISTURE CONTENT OF THE PRESERVED TIMBER (PT) WAS EXPECTED TO BE LOW BUT SUBSEQUENTLY FOUND TO BE HIGH THEN THEIR INSPECTION SHOULD BE CARRIED OUT REGULARLY AS PART OF THE MAINTENANCE PROGRAM. THIS WOULD INVOLVE REMOVING ANY HIGH-RISK COMPONENTS SUCH BOLTS OR COACH SCREWS FIXED INTO OBVIOUS DAMP AND WET TIMBERS WHICH MAY OR MAY NOT BE CLOSE TO THE GROUND OR EVEN HIGHER THAN 600MM FROM THE GROUND. THE EMBEDDED THREAD AND SHAFT NEEDS TO BE REMOVED AND INSPECTED CLOSELY AT MINIMUM 5 YEARLY INTERVALS. IF SIGNS OF CORROSION ARE FOUND ON OVER 1%-2% OF THE SURFACE AREA THEN THE FIXING IS TO BE REPLACED WITH A STAINLESS-STEEL EQUIVALENT OR A GALVANIZED BOLT WITH ADDITIONAL SURFACE PROTECTION WHILE CONTINUING THE SAME MAINTENANCE PROGRAM TO MONITOR OR UNTIL SATISFACTORY. IN SOME SPECIFIC ENGINEERING DESIGN (SED) CASES, MORE DURABLE MATERIALS SUCH AS SILICON BRONZE MAYBE REQUIRED.

(13) PREVENT CONTACT BETWEEN ALL DISSIMILAR MATERIALS (i.e. GALVANIZED STEEL AND ALUMINIUM OR GALVANIZED STEEL AND STAINLESS STEEL) BY SEPARATING WITH NEOPRENE WASHERS OR SIMILAR APPROVED.

(14) ALL CHEMSET CONCRETE ANCHORS ARE TO BE FIXED TO MANUFACTURER'S SPECIFICATIONS.

TABLE 1: TYPICAL ATMOSPHERIC CATEGORY

ENVIRONMENT LIMITATIONS	MACROCLIMATE CORROSION CATEGORY (SNZ TS 3404:2018 & AS/NZS 2312.1:2014)
MORE THAN 20KM TO 50KM FROM SALT WATER ON WEST & SOUTH COAST OF SOUTH ISLAND, 5KM TO 50KM FROM SALT WATER ON EAST COAST OF BOTH ISLANDS & SOUTH COASTS OF NORTH ISLAND & ALL HARBOURS OR OTHERWISE INLAND MORE THAN 50KM.	C2
WITHIN 20KM OF BREAKING SURF ALONG THE WEST & SOUTH COASTS OF SOUTH ISLAND, OR WITHIN 5KM OF SALT WATER ALONG EAST COAST OF BOTH ISLANDS, OR WITHIN 5KM OF SALT WATER WEST & SOUTH COASTS OF THE NORTH ISLAND, & ALL HARBOURS.	C3
WITHIN 500M INLAND OF BREAKING SURF, OR WITHIN 50M OF CALM SALT WATER SUCH AS HARBOUR FORSHORES. THIS AREA MAY BE EXTENDED INLAND BY PREVAILING WINDS AND LOCAL CONDITIONS.	C4
WITHIN 200M OF BREAKING SURF ON THE WEST AND SOUTH COASTS OF THE SOUTH ISLAND, OR WITHIN 100M OF BREAKING SURF ON THE WEST AND SOUTH COASTS OF THE NORTH ISLAND, OR WITHIN 50M OF BREAKING SURF ON ALL OTHER COASTS, OR WITHIN 500M OF GEOTHERMAL SOURCE OR WITHIN SPACES OF HIGH HUMIDITY OR CORROSIVE ENVIRONMENTS. CONTACT YOUR SUPPLIER/ENGINEER FOR MORE GUIDANCE.	SED C5-I, C5-M, CX/T
NOTE 1: ABOVE ENVIRONMENTS MAY BE EXTENDED INLAND BY PREVAILING WINDS & LOCAL CONDITIONS.	

REFER TO SNZ TS 3404:2018 FIGURES 1 TO 7 FOR SPECIFIC CORROSIVITY MAPS FOR FURTHER GUIDANCE. FOR CONFIRMATION OF A SITE-SPECIFIC ATMOSPHERIC CORROSIVITY CATEGORY (FOR EXAMPLE, FOR SITES THAT ARE SHELTERED FROM MARINE INFLUENCE BY THE LOCAL TOPOGRAPHY), THEN SITE-SPECIFIC TESTING CAN BE CARRIED OUT AS DESCRIBED IN HERA REPORT R4-133.

TABLE 2: DURABILITY PROVISION

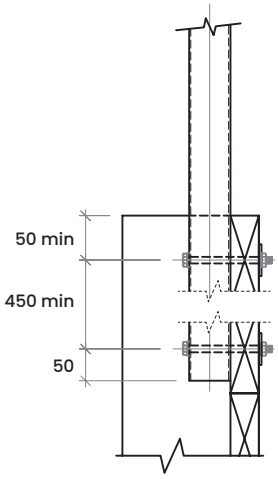
TYPICAL ATMOSPHERIC CATEGORY	C4	C3	C2	ALL OTHERS
EXPOSED (NOTE 2)	ALL FIXINGS TYPE 304SS	HOT DIPPED GALVANIZED STEEL	HOT DIPPED GALVANIZED STEEL	SED
SHELTERED (NOTE 2)	ALL FIXINGS TYPE 304SS	ALL FIXINGS TYPE 304SS	HOT DIPPED GALVANIZED STEEL	SED

NOTE 2: REFER TO SNZ TS 3404:2018 FOR DEFINITION OF "SHELTERED" & "EXPOSED". WHERE ITEMS ARE IN SHELTERED LOCATIONS THESE CAN BE TREATED AS EXPOSED IF REGULAR WASHING DOWN IS CARRIED OUT AS PART OF THE REGULAR MAINTENANCE PROGRAM.

Side Fix to Timber Retaining Wall - Post Centers 1.2m

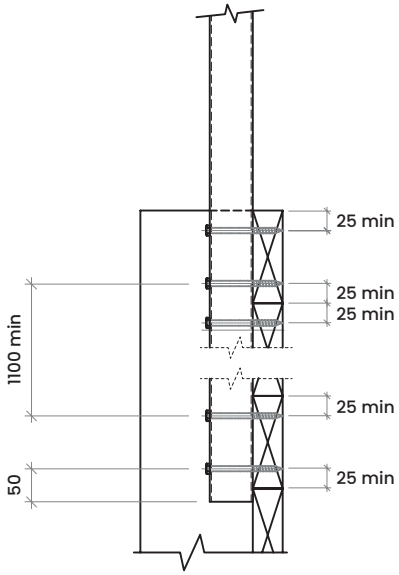
1.2m Max. Post Spacing & 2.4m Max. Height
Covers A, B, E, C3 occupancy category loading & Very High wind zone or Extra High wind zone if max height = 2.2 m.

Retaining walls to be checked/designed by others.



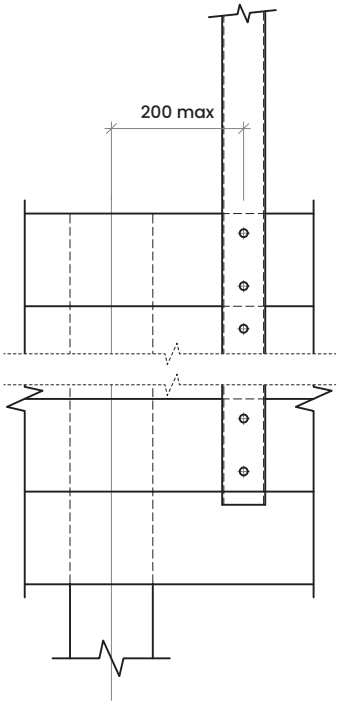
Fixings: Bolts

2 x M10 Bolts (min.) with 50 x 50 x 5mm or 2 x 50 x 50 x 3mm sq washer on timber side.



Fixings: Coach Screws

5 x M10 Coach Screws, min 45 mm penetration into timber.

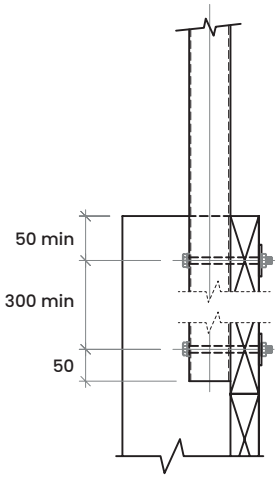


Retaining Wall Post

Side Fix to Timber Retaining Wall - Post Centers 2.4m

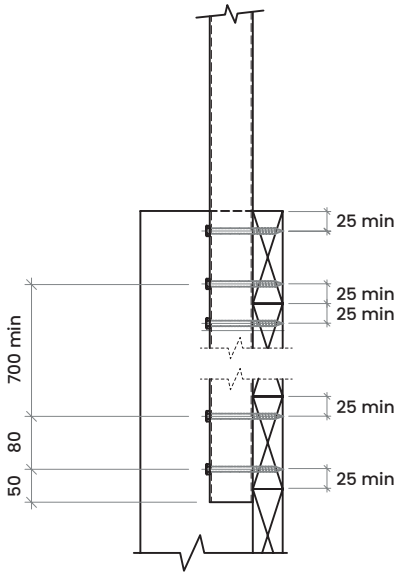
2.4m Max. Post Spacing & 1.2m Max. Height
Covers A, B, E, C3 occupancy category loading & Extra High wind zone.

Retaining walls to be checked/designed by others.



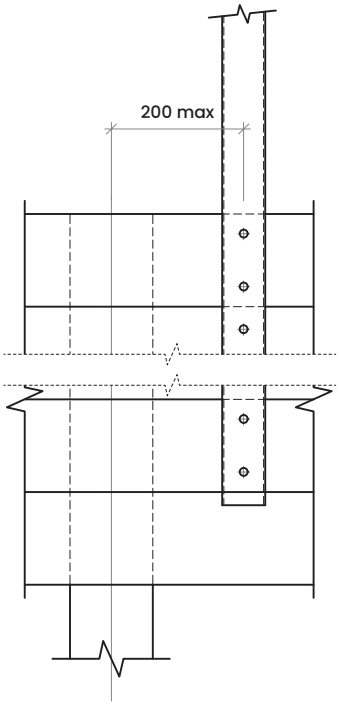
Fixings: Bolts

2 x M10 Bolts (min.) with 50 x 50 x 5 mm or 2 x 50 x 50 x 3 mm sq washer on timber side.



Fixings: Coach Screws

5 x M10 Coach Screws, min 45 mm penetration into timber.

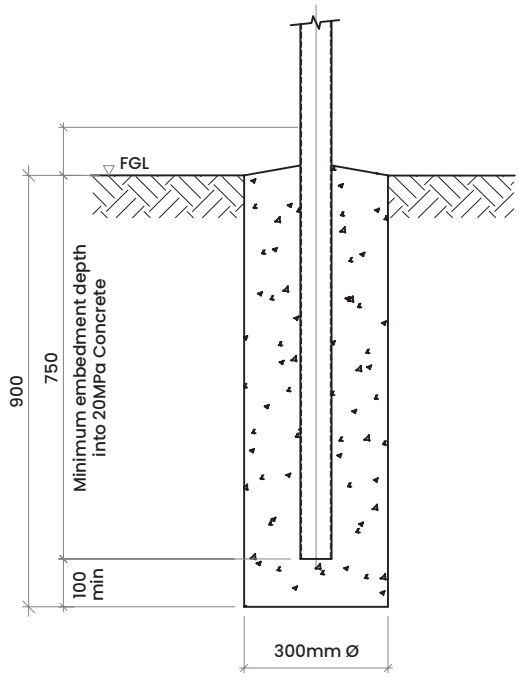


Retaining Wall Post

Concreted in Ground - Post Centers 2.4m

2.4m Max. Post Spacing & 1.2m Max. Height
Covers A, B, E, C3 occupancy category loading & Extra High wind zone.

Note:
Post footing to be embedded in good ground with min 100kPa allowable bearing as defined by NZS 3604:2001

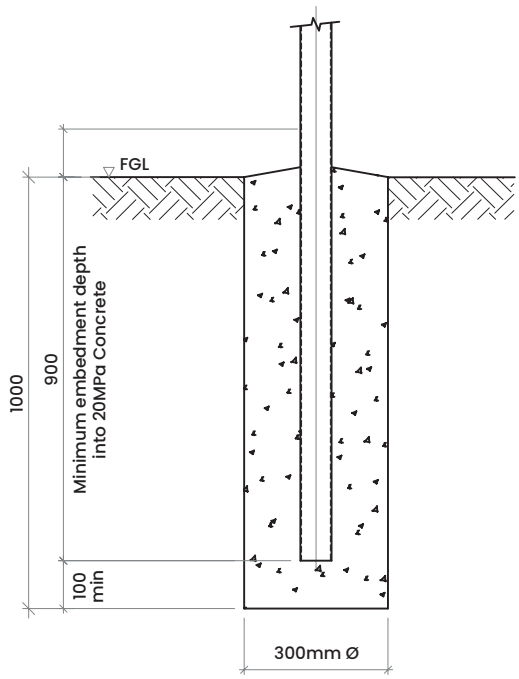


Concreted in Ground - Post Centers 1.2m

1.2m Max. Post Spacing & 2.4m Max. Height
Covers A, B, E, C3 occupancy category loading & Very High wind zone or Extra High wind zone if max height = 2.2 m.

Restraint at the ground level is required if the proposed balustrade system is more than 1200 mm above ground, otherwise, the balustrade post section needs to be redesigned. Concrete/block wall substrate to be checked/designed by others.

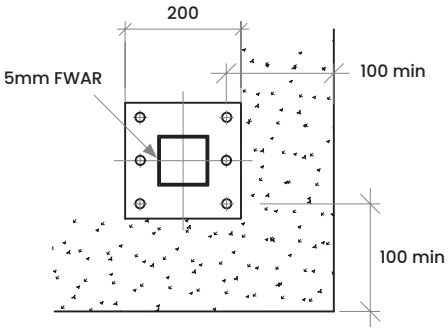
Note:
Post footing to be embedded in good ground with min 100kPa allowable bearing as defined by NZS 3604:2001

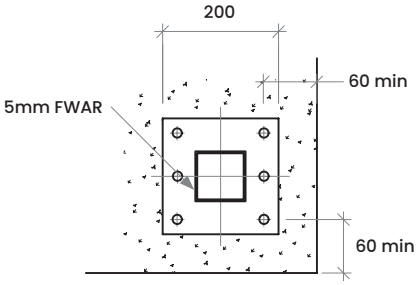


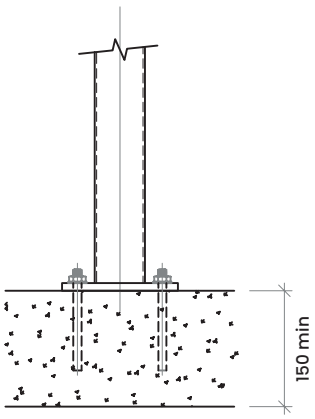
Top Fix to Concrete - Post Centers 1.2m

1.2m Max. Post Spacing & 2.4m Max. Height
Covers A, B, E, C3 occupancy category loading & Very High wind zone or Extra High wind zone if max height = 2.2 m.

Concrete/Block wall substrate to be checked/Designed by others.







Fixings: Screw Bolts

6 x M12 Screw Bolts fischer concrete screw ULTRACUT FBS II 12x130 or equivalent, 81 mm min embedment into 20 MPa cracked concrete.

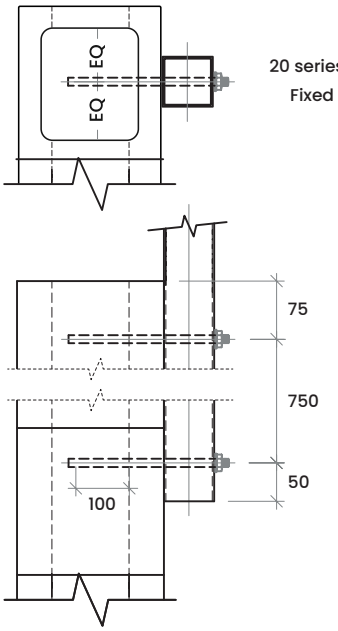
Fixings: Chemical Anchors

6 x M12 Chemical Anchors threaded rod with fischer FIS V or equivalent, 120 mm min embedment into 20 MPa cracked concrete.

Side Fix to Block Wall

Fixings: Chemset Anchors

2 x M12 Chemset Anchors threaded rod with fischer FIS V or equivalent, 100 mm min into masonry core, fully grouted 20 MPa cracked concrete.

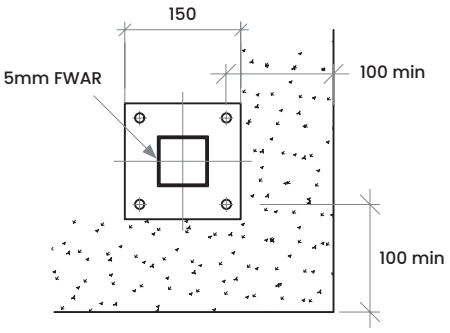


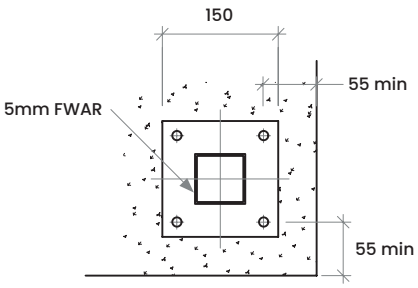
20 series block wall,
Fixed centrally.

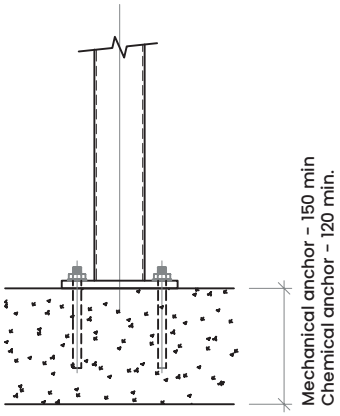
Top Fix to Concrete - Post Centers 2.4m

2.4m Max. Post Spacing & 1.2m Max. Height
Covers A, B, E, C3 occupancy category loading & Extra High wind zone.

Concrete/Block wall substrate to be checked/Designed by others.







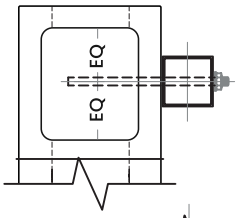
Fixings: Screw Bolts

4 x M12 Screw Bolts fischer concrete screw ULTRACUT FBS II 12x110 or equivalent, 81 mm min embedment into 20 MPa uncracked concrete.

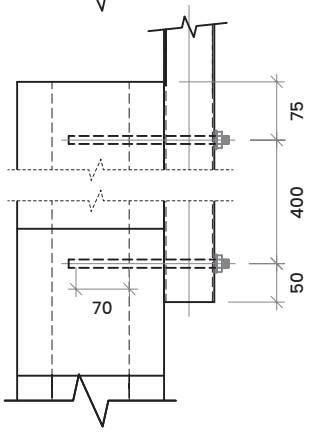
Fixings: Chemical Anchors

4 x M12 Chemical Anchors threaded rod with fischer FIS V or equivalent, 75 mm min embedment into 20 MPa uncracked concrete.

Side Fix to Block Wall - Post Centers 2.4m



20 series block wall,
Fixed centrally.

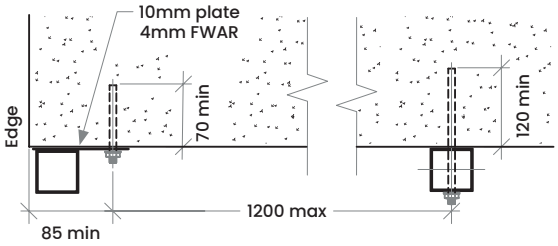


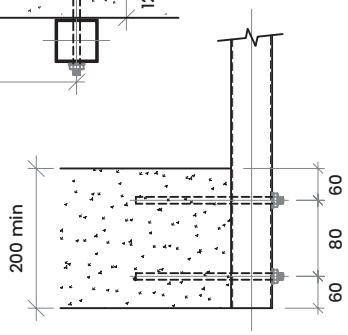
Fixings: Chemset Anchors

Post centers 2.4m

2 x M12 Chemset Anchors threaded rod with fischer FIS V or equivalent, 70mm min into masonry core, fully grouted 20 MPa. Uncracked concrete

Side Fix to Block Wall - Post Centers 1.2m





Fixings: Chemset Anchors

1.2m Max. Post Spacing

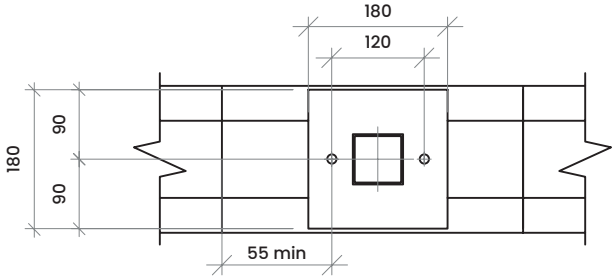
For typical/intermediate balustrade posts:
2 x M12 Chemset Anchors threaded rod with fischer FIS V or equivalent, 120 mm min. anchorage depth into 20 MPa concrete.

For end balustrade posts:
2 x M12 Chemset Anchors threaded rod with fischer FIS V or equivalent, 70 mm min. anchorage depth into 20 MPa uncracked concrete ensure 85 mm min. side edge distance.

Side Fix to Block Wall - Post Centers 1.2m

Fixings: Chemset Anchors

2 x M12 Chemset Anchors threaded rod with fischer FIS V or equivalent, 70 mm min embedment into masonry core, fully grouted 20 MPa uncracked concrete, ensure 55 mm min. side edge distance.



Top Fix to Timber Deck - Post Centers 1.2m and 2.4m

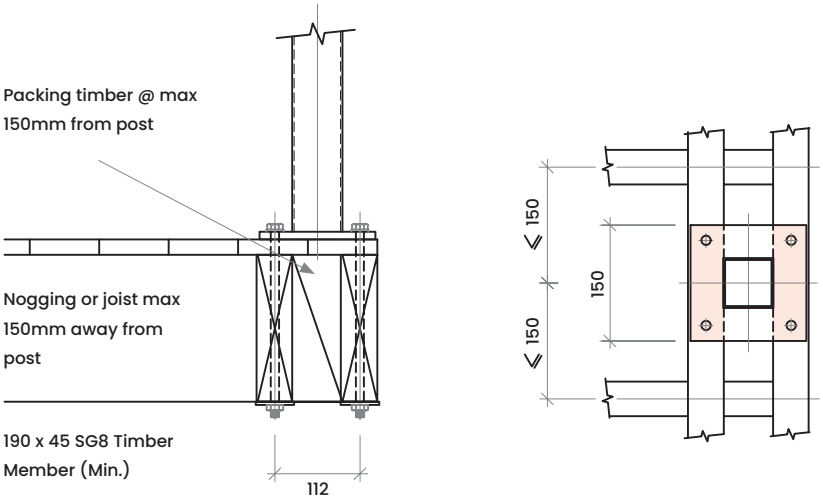
2 Configurations

1.2m Max. Post Spacing & 2.4m Max. Height
Covers A, B, E, C3 occupancy category loading & Very High wind zone or Extra High wind zone if max height = 2.2m.

4 x M12 Bolts with 45 x 150 x 6mm SS plates or
4 x M12 Bolts with 65 x 65 x 6mm sq washer provided that additional packers are added to achieve sufficient bearing area.

2.4 M Max. Post Spacing & 1.2 M Max. Height
Covers A, B, E, C3 occupancy category loading & Extra High wind zone. 4 x M12 with 50 x 50 x 5 mm sq washer.

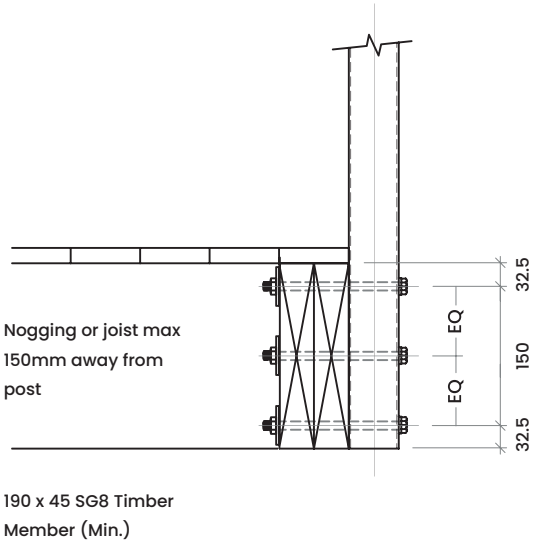
Timber substrate to be checked/designed by others.



Side Fix to Timber Deck

Bolts:
3 x M12 Bolts with 65 x 65 x 6mm sq washer

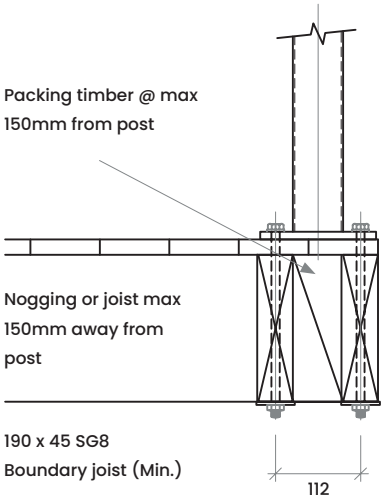
Deck designed by others.

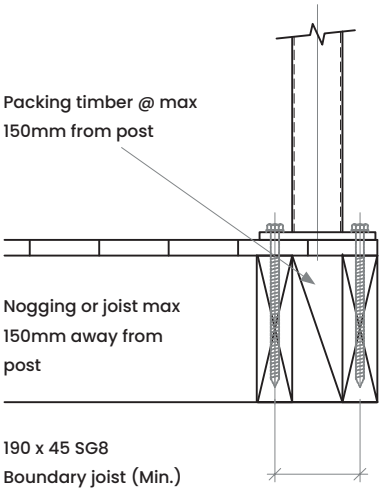


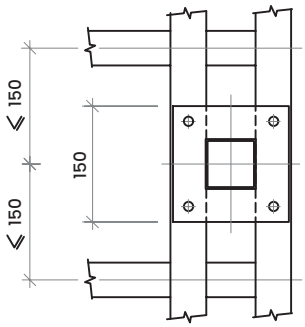
Top Fix to Timber Deck - Post Centers 1.2m

1.2m Max. Post Spacing & 1.2m Max. Height
Covers A, B, E, C3 occupancy category loading & Extra High wind zone.

Timber substrate to be checked/designed by others.







Fixings: Bolts

4 x M10 Bolts (min.) with 50 x 50 x 3mm sq washer on timber side.

Fixings: Coach Screws

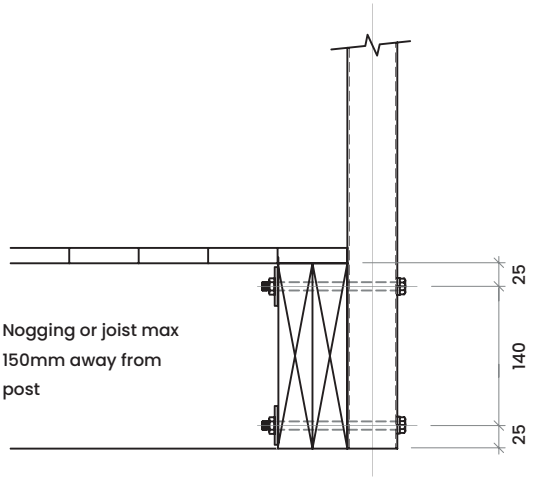
4 x M10 Coach Screws, min 160 mm penetration into timber.

Side Fix to Timber Deck

Fixings: Bolts

2 x M10 Bolts (min.) with 50 x 50 x 5mm or
2 x 50 x 50 x 3mm sq washer on timber side.

Deck designed by others.



New Zealand Crew
E: crew@edgesmith.co.nz

Australia Crew
E: crew@edgesmith.com.au

New Zealand HQ

20 Anvil Road, Silverdale
Auckland 0932
P: 09 427 4980

Australia HQ

Unit 6/49 Bertie St,
Port Melbourne VIC 3207
P: 0456 314 652

East Tamaki Branch

20 Kerwyn Avenue,East Tamaki,
Auckland 2013
P: 09 777 7268

Brisbane Branch

55-57 Kabi Circuit, Deception Bay,
Queensland 4508
P: 07 3707 6450

Christchurch Branch

4 Anchorage Road,Hornby South,
Christchurch 8042
P: 03 662 9040